

WHAT IS CLAIMED IS:

1. A frequency-modulated dimming control system of a discharge lamp, comprising:

a voltage regulator having a variable output voltage for converting an input voltage into a bus voltage, wherein a level of said bus voltage is a predetermined ratio of said input voltage; and

a ballast circuit for driving said discharge lamp by detecting a variation of said bus voltage and then providing a current to said discharge lamp in response to a frequency modulation of said ballast circuit and said variation of said bus voltage so as to control a light intensity of said discharge lamp.

2. The control system as claimed in claim 1, wherein said input voltage is one of a DC voltage and an AC line voltage.

3. The control system as claimed in claim 1, wherein said voltage regulator is one of a power supply and a transformer.

4. The control system as claimed in claim 1, wherein said predetermined ratio is 10%.

5. The control system as claimed in claim 1, wherein said ballast circuit further comprising:

a rectifier for rectifying said bus voltage;

a voltage converter for detecting said variation of said bus voltage and amplifying said variation to produce a dimming signal; and

a control integrated circuit for controlling an output of said discharge lamp according to said dimming signal.

6. The control system as claimed in claim 1, wherein said rectifier is a bridge circuit consisting of four rectifier diodes.

7. The control system as claimed in claim 6, wherein said voltage regulator

consists of an operational amplifier.

8. The control system as claimed in claim 6 further comprising an inverter consisting of at least one switch, wherein said inverter is controlled by said control integrated circuit, seriously connected between said rectifier and said discharge lamp and adjustably providing a current to said discharge lamp by altering a frequency.

9. The control system as claimed in claim 8, wherein said switch is a Metal-Oxide-Semiconductor Field Effect Transistor (MOSFET).

10. The control system as claimed in claim 8 further comprising an induction device seriously connected between said inverter and said discharge lamp for receiving energy from said inverter when said switch is off and providing said energy to said discharge lamp.